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Title: Summary of Field-Based Findings

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NSDD Partnership



Working Together to Prevent Nuclear Trafficking

The Office of Nuclear Smuggling Detection and Deterrence

Summary of Field-Based Findings

Applications of Existing
Capabilities to a Nuclear Forensics
Investigation (APPS)

January 2018

Objectives

- Describe item characteristics that can be determined in the field
- Discuss the limitations to field-based findings

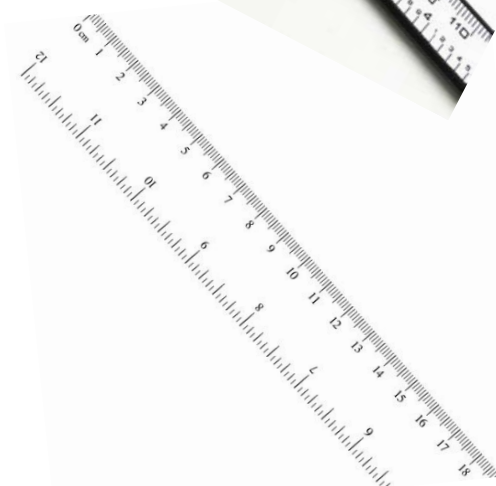
Limitations to Field-Based Characterization

- Field based characterization is limited because:
 - Time constraints
 - Inability to open containers
 - Lack of precise measurement technology
 - Imprecise measurement configurations
 - Lack of experience
 - Lack of quality control



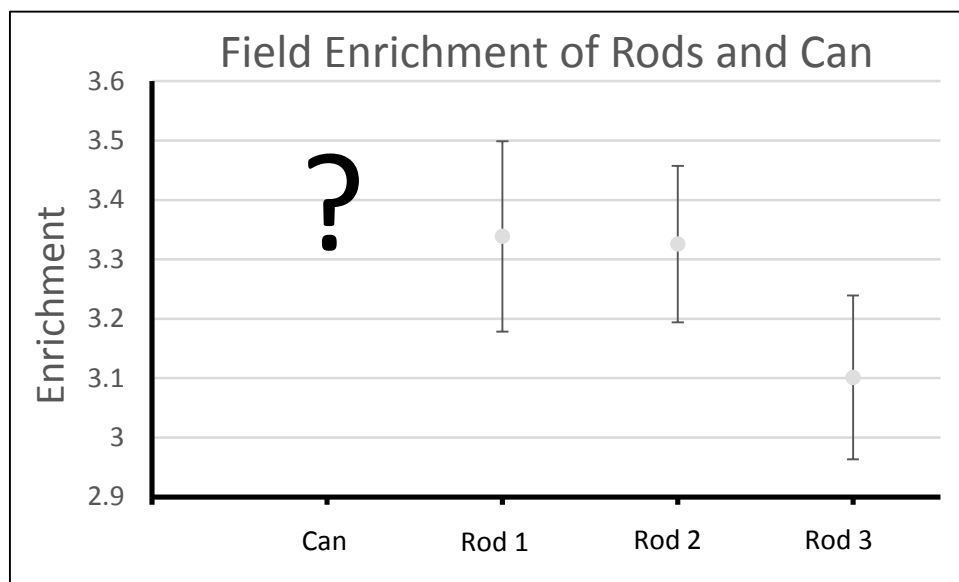
Typical Item Characteristics – In-Field

- Material/Sources should not be unpacked or opened in the field (avoid spread of contamination)
- Qualitative
- Physical Properties
 - Approximate size
 - Unique markings



Typical Item Characteristics – In-Field

- Quantitative
- Characteristic radiation signatures
 - What isotopes are present?
- Isotopic composition
- Approximate Activity



Summary

- Describe item characteristics that can be determined in the field
- Discuss the limitations to field-based findings